THE QUARTERLY MAGAZINE OF THE NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY
VOL. 10/NO. 1 SUMMER 1971

Terra



SARAH BERNHARDT

Come to Sarah Bernhardt's Birthday Party October 22

Madame Sarah Bernhardt, giant of the nineteenth and early twentieth century stage, whose career extended over sixty years, left a legacy on film which is almost totally neglected by her many biographers.

On the anniversary of Madame Bernhardt's birthday, October 22, the Natural History Museum is going to remedy that neglect. Through the courtesy of the archives of the Film Library of The Museum of Modern Art in New York, the Natural History Museum Alliance is bringing to its members, as another benefit of Museum membership, major portions of "La Dame aux Camelias" and "Queen Elizabeth."

It seems appropriate at a time when two versions of Madame's life are being filmed that the public have an opportunity to see some of the craft of this great artist preserved as an astonishing silent tribute to "the world's greatest actress." The two rarely seen films provide insight into the grand tradition of acting of which Sarah Bernhardt was the greatest exponent. If the style seems exaggerated and archaic, the viewer must be reminded that he is witnessing the apotheosis of a tradition of acting long dead.

In order to further reinforce these performances for both film student and history lovers, recordings taken from the archives of the dozen or so cylinders which were made of Madame Sarah's "Great Golden Voice" will be presented after the films are shown. The sound of cylinders crackling, leaves us an almost unintelligible audio record of that magnificent voice, but the inherent musicality and the impassioned declamations are sufficient to permit us to understand why audiences sometimes shivered and often wept. All of the pathos, love, and rage is preserved in twelve or so cylinders. The few which will be played at this October 22 birthday celebration were rerecorded in Paris at the home of a late private collector who cherished them so dearly that he would not permit them to be taken to a studio for transcription; thus we have the imperfect record of this magnificent organ.

A memorial exhibit, "The Divine Sarah," will be on display in the west stairwell landing from October 15 until January, 1972. Included in this exhibit is a painting on gilded leather of Madame as Gismonda, as well as cabinet photographs from Downey of London and Nadar of Paris. Authentic letters of Madame, concerning her publication, her love life, and her tempestuous communication with Mme. Chauvelot, who wanted to strangle Sarah, will be included, as will medallions, lithographs and programs from the collection of William Emboden.

This birthday fete will be open to Museum members only, and will not be repeated. In order to insure seating for the October 22 performances in the Museum Auditorium, one at 6:30 P.M. and another at 8:30 P.M., write to Natural History Museum Alliance, Exposition Park, Los Angeles 90007. If you are not now a member, a check for $12.50 will admit your family to the films and will buy you a year's membership in that Museum on the move, The Natural History Museum of Los Angeles County.Write today before it is too late.

About the Authors

Dr. William A. Emboden is a Sarah Bernhardt buff. His collection of Bernhardt memorabilia includes paintings, medallions, letters and a volume from her library dedicated to her by the poet, Magre. Dr. Emboden, a writer in many fields, is Research Associate in Botany at The Natural History Museum of L.A. County and Professor of Biology, San Fernando Valley State College.

Richard Lipscomb has written for newspapers, motion pictures and television, having been Assistant Producer and Head of Research for the famed CBS-TV history series, "You are There." Chief of the Natural History Museum's Education Division, Mr. Lipscomb has intimate knowledge of its distinguished Chamber Music series, having overseen the programs for the past seven years.

Dr. Charles F. Richter is the man whose phone almost rings off the wall when earthquakes strike. The famed seismologist, whose scale for measuring an earthquake's intensity bears his name, received his Ph.D. from California Institute of Technology and headed its Seismology Laboratory until his recent retirement. Since that retirement he seems to be busier than ever, going where the ground moves to measure on the spot, lecturing and writing in his so-called spare time.

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The bejeweled Sarah Bernhardt late in life (unpublished photo by Downey of London)

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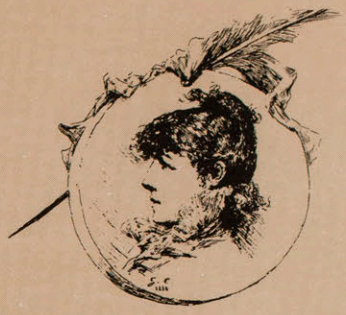
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SARAH BERNHARDT ON FILM



"Altesse Royale, I shall die en scene; *it is my battlefield." Sarah Bernhardt (a letter to the Duchess of Teck)*

by **William A. Emboden Jr.**

In 1900 visitors to the Paris Exposition had the opportunity of seeing an already legendary figure of the world's stages in the brief duel scene (Act V, scene ii) from *Hamlet*. Instead of the presence of the Divine Sarah, the crowds were treated to a few minutes of Madame in a "moving-picture" produced by Mme. Marguerite Chan and directed by Clement Maurice. These might have been of no more consequence than the similar moments of Loie Fuller's moth-like flutterings in yards of gossamer, however these precious seconds were to mark the transposition of the art of theatre to a new medium, and to simultaneously herald the entrance of the world's greatest actress into a new art form. At the time Bernhardt filmed *Hamlet* she had spent nearly forty years on stage, and in that play she had appeared as the fragile Ophelia but a few years earlier. Now at fifty-six years of age she appeared before the London Public declaiming her lines in French. Bizarre, anachronistic, daring — all were attributes of The Divine Sarah, and on film her *Hamlet* was a brilliant fragment of a performance spoken of as "phantasia . . . an arabesque played upon the theme of *Hamlet* by a woman of genius." It was a role which Maurice Baring described as "magic, electrical, poetical and the first time the role had been understood and correctly interpreted." A few yards of silent film backed by clashing swords on an Edison cylinder made in 1899 were the inception of an art form which has dominated the stage in successive decades.

Biographers of Madame Sarah, and there have been many, have almost totally neglected her career in films and yet between the years of 1899 and 1923 she made eight films and initiated the star system. Her oft quoted aversion to film-making is to be taken lightly, for there is much evidence to the contrary. La Petite Sarah said of the motion picture industry "it exorcized the old curse on the actor's art — it's impermanence." Because Madame refused to pose for moving pictures while on tour in this country, some biographers have assumed that she had an aversion to being filmed; to the contrary, she wished to be filmed, but *en scene* rather than as a newsreel curiosity. She was appalled by most of the films which she had seen in the first decade of this century and referred to them as "those absurd photographic pantomimes." However she saw the possibility inherent in film and stated on more than one occasion "they are my last chance at immortality." It was not only a desire to preserve the legend that led Sarah into films, for in 1912 she had already decided to film a part of her famous stage success *La Dame Aux Camélias*. For thirty years she had electrified audiences as Marguerite Gautier and now she was determined to make a permanent record of her performance beginning with Marguerite's separation from Armand (played by the handsome matinee idol Lou Tellegen). The decision was in part conditioned by the decision of Le Film d'Arte to offer her the $30,000.00 which she demanded in order to play the role. Director André Calamettes and Henri Pouctal, who was responsible for the scenario, took their stars to Neuilly sur Seine for the filming in 1911. They were almost guaranteed a success with the film, for Bernhardt's two tours of this country had already grossed three million dollars. Sarah did not come before the cameras unprepared, she went to all of the motion pictures and studios in Paris and spent hours talking to directors, actors, cameramen. By the time filming started she was a veritable encyclopaedia of information on the art of film making. A few rehearsals

were necessary so that the timing might be accurate, but the filmed version was made in one big "take" and printed as two reels. Her enthusiasm was considerable and she attended a preview showing with her great writer-friend Edmond Rostand. Contrary to other reports of her being disappointed and fainting at having overacted, she delighted in the film and at the finish she turned to Rostand and asked, "what is next for me"? Further indication of her satisfaction is to be found in a letter which she wrote to her American manager William F. Conner: "I have conquered a new world — that of the photoplay." It is interesting that she refers to films as photoplays, for unlike other actresses who adapted to the medium, Sarah initially regarded this technical invention only as a means to record theatre as she knew it. In all of her early films she declaimed the French texts just as she would in any legitimate theatre. Apropos of *La Dame aux Camélias* she wrote in her letter to Conner, "I never thought, my dear William, that I would ever be a film, but now that I am two whole reels of pictures I rely for my immortality on these records." Of this film *Moving Picture News* of March 1912 contains the following review under the caption "Sarah The Divine in M.P.'s": "Camille was never more pitifully eloquent than in this dumb record. She played with wonderful fire and expressiveness. Great genius that she is she suited herself to her medium and the result is a long series of photographs that are staccato in their expressiveness. The story is revealed as plain as print. "Camille" is a perfect photoplay. The story lends itself to the purposes of the camera, and Bernhardt is eloquent in every movement. Someone has said that the pictures fairly crackle with life and project wireless messages to the spectators. All over Europe the photoplay "Camille" is a sensation and Americans are eagerly awaiting the release of these reels, which are now in the control of the French-American Film Company which is rapidly disposing of State rights." "Camille" was a success in this country for reason of Madame's enormous popularity here. She loathed the use of "Camille" as a title and was heard to remark "Absurd! Camille is the proper name for a gentleman." Lou Tellegen is scarcely mentioned in the reviews. Having an excellent physique (one of Rodin's favorite models) and a good profile, he was able to attract



Bernhardt in the 1899 *Hamlet*

women (and there were many in his life). As an actor, his performance in *La Dame aux Camélias* is best summarized as embarrassing. His excesses even exceed those of the Divine Sarah. Aided by fellow actors Capellani, Charmeroy, Seylor, Desfontaines, Pitou, and Pouctal (who had also written the scenario), the film was burgeoning with names familiar to the French public.

While Bernhardt gave passing acknowledgement to the *Hamlet* fragments, she regarded *La Dame aux Camélias* as her first film. Almost nothing is known of her "lost film" *La Tosca*. In 1908 Madame had appeared in the Market Hall of Bellville in Neuilly sur Seine with director Calamettes, Lucien Guitry, Paul Mounet and her great costar Edouard DeMax for the explicit purpose of making a film of the play *La Tosca* by her friend Sardou. The play was already a great success on stage and her artist-companion Alphonse Mucha had executed two exquisite posters of La Grande Sarah as the heroine Floria Tosca who, having devoted her life to her art and to love, has to commit a brutal murder in order to save her lover Mario Cavaradossi.

In vain, Mario is shot and Floria leaps to her death from the parapets of Castello San Angelo. All of this provided enough action and intrigue for Puccini to set the text to music, so it seemed also to have potential as a film. It was hurriedly made and when Sarah saw the preview of the film she reacted with horror and asked that no prints be released. This censorship has prevailed and *La Tosca* has been lost to a world that would love to see glimpses of Madame in one of her finest roles. It was a performance of *La Tosca* in Rio that led to the final amputation of Madame's leg. A stagehand forgot to place a mattress for her leap in the final scene; the result was uremia, gangrene and in 1915 the monstrous amputation. G. F. Blaisdell writing in "Moving Picture World" in 1912 recorded DeMax as Scarpia but notes M. Denenbourg as Cavaradossi and M. Maury as Angelotti; no mention is made of the renowned Lucien Guitry or Paul Mounet. Blaisdell does mention a release of *La Tosca* in 1911 under the auspices of Film d'Arte and Universal Features. This two-reel film, forty minutes in length and "gripping" as well as having "fast action" leads to speculation that perhaps two versions of *La Tosca* were made. After the death of Sardou this film was retracted at Bernhardt's request.

In 1912, at the age of sixty-seven, Bernhardt was convinced by Louis Mercanton that she should appear in the first full-length motion pictures as *Elizabeth Reine d'Angleterre.* The play was again written for Sarah by a friend Emile Moreau who had written *Le Proces de Jeanne d'Arc* for her in 1909. The latter enjoyed a great success for reason of the many autobiographical fragments included in the script. The public knew Bernhardt well; not only through the stage and her films, but through her two-volume *Memoires (Ma Double Vie).* She had always been a favorite of the press. "Elizabeth Queen of England" had not fared well on the stages of France, but the French were possessive of their Petite Sarah and had no fondness for the British or the London stages; certainly English history was disagreeable. The supporting cast for this film left much to be desired; Lou Tellegen played Essex with the sameness that had already made him the whipping boy of the critics. It is surprising that Louis Mercanton, who had invested in a number of French films, was convinced that there was a public for "Elizabeth." After all, it had lasted only a week in Paris with the Divine Sarah in the cast. This film came quickly after "La Dame," but Lou Tellegen, who also played in that film, does not mention it in his memoirs, and has a most peculiar conception of "Elizabeth" and the origins of this film. He relates, "Madame thought I was mad when I begged her to do it. She appear in these funny new things called "moving pictures?" It was only after weeks of swearing 'never' that she gave in and we went to work." Had he forgotten the *Hamlet* of 1899, did he know of the 1908 *Tosca,* or could he remember the filming of *La Dame aux Camélias* only months earlier. In his autobiography, *Women Have Been Kind,* he goes on to state, ". . . we hadn't the remotest idea of camera angles, make-up for the camera, or anything. The camera didn't even move, but photographed everything from the same position." A few frames of the film reveal the utter stupidity of Tellegen's reminiscences. He remembers the original to have been seven consecutive reels; it would be interesting to know if this assertion is correct, for the final version was four reels



The Divine Sarah as *La Dame aux Camélias* (Adrienne Lecouvreur according to Baring)



Lou Tellegen, Madame's "leading man" on film

The death of *La Dame aux Camélias*

and there is no record of three additional reels. This was the first full-length film ever made and for it Madame demanded, and received, three hundred sixty dollars each day and ten per cent of the gross! This was unheard of, and only so regal and notable a figure as Madame could have carried off such a coup. This epic fared well in France as a film for the medium and the magnitude of the undertaking. Adolph Zukor, who was just starting out in the theatre, bought the American screening rights for $18,000. Money was raised by Zukor, Edwin S. Porter, and Joseph Engel (one of the earliest executives of Universal Pictures). Accounts of the transaction vary. According to Mercanton it was sought after; Zukor relates that it had not yet been completed and was purchased in part to rescue Mercanton from financial ruin. The trio was wise enough to employ Daniel Frohman, brother of the famous Broadway impresario Charles Frohman, to "present" the film; this was to insure an American audience for the film. Charles Frohman saw motion pictures as a "trivial passing madness of the masses," and was irritated by his brother's lack of discretion in using the family name. It is also safe to assume that he was somewhat embittered over a recent series of failures on the Broadway stage. *"Quand meme,"* the film opened on July 12, 1912 at Broadway's Lyceum Theatre under the auspices of Zukor's Enghandine Company of "Famous Players in Famous Plays" presented by Daniel Frohman. The epic was well attended by a public who, not having to listen to any spoken French, adored their legendary Madame Sarah, and stood to cheer her on film as had been their wont during her stage appearances. Despite a mixed press, the public acclaim resulted in the film being sold for regional distribution for a sum of eighty thousand dollars — an auspicious beginning for "a trivial passing madness." Sarah was not concerned over the reviews for she was often heard to say in regard to criticism, "I am myself, indifferent, honest," an obvious lift from her *Hamlet.* It was at the screening of this film that she revealed to Louis Mercanton, "Queen Elizabeth is my one chance at immortality"— the same statement that she had made to Conner in reference to *La Dame aux Camélias.* Sarah knew that she was a legend in her time and now she had found a way of giving her art to eternity.

George Bernard Shaw was visiting in the Welsh countryside when he happened to see Bernhardt in "Queen Elizabeth" and he wrote at that time of his enthusiasm for the prospects of bringing the greatest talents of the day to all parts of the world by way of moving pictures. Without his usual biting invective, he went on to say that he anticipated the day when the gramophone and film would in some way be united to give the world "talking pictures." His critique was certainly advanced in thought and remarkable in that he accorded Madame Sarah her greatness without the scathing wit that had demolished many other performers. Perhaps his attitudes may be explained in part by his fondness for Ellen Terry who adored Sarah and appeared with her on stage as Mellisande in Maeterlinck's play. Needless to say, Sarah played the young man, Pelleas.

An interesting review of "Queen Elizabeth" appeared in "The Theatre Magazine" of 1912. The novel production was referred to as a "remarkable moving picture exhibition of a photo play in 21 scenes." The camera was a "mechanical contrivance" and the projector a "cinematograph." In spite of these curious descriptions, the anony-



mous reviewer was optimistic about the fate of the "poor man's theatre," for he felt that the film would lead to better theatre through competition with the stage. He also believed that the curse of speechlessness might be removed and the moving picture might someday talk, "but when it does, it will only be seen in expensive places that will not be common over the country." Except for the latter statement he was quite farsighted. As to Bernhardt's performance, he notes that the Divine Sarah, "did not merely pose mechanically for a mechanical contrivance, but proceeded to give one of the finest performances of which this greatest living artist is capable." He was especially impressed with her slow sinuous walk which was instantly recognizable as that of Madame Sarah. How interesting it is to contrast this with a recent volume purporting to be a history of the motion picture industry in which we find only a brief reference to Sarah Bernhardt which states that in "Elizabeth" she hobbled her way through the role on a wooden leg. It was not until three years later that Sarah had a leg removed and afterwards continued to act by clever placement and carriage, but never "hobbled" through any role. Dignity and ingenuity prevented Sarah from becoming pathetic despite her exploitation by American vaudeville.

In "Elizabeth" Sarah listens with fright and terror while an old fortune teller prophesies the death of Essex, a fright that is metamorphosed into a savage denunciation of the Earl of Nottingham played by M. Maxudian, and later into pathos when she collapses in the final scene. In her last film *La Voyante* Sarah appears only hours before her agonizing death in the role of a fortune teller, the kohl under her eyes streaked with tears; this scene in "Elizabeth" seemed a portent of the circumstances destined to bring an ending to all of the beauty and horror that was the exquisite life of Sarah Bernhardt.

"Elizabeth" was followed in 1912 by an offer from Mercanton to film *Adrienne Lecouvreur,* a story very dear to Sarah because the Adrienne of history was an actress also. Scribe and Legouvé wrote a script based on the legend that had an enormous reception. It is an extreme sentiment to allow a heroine to die of poisoned violets, but such notions were popular. Francesco Cilea wrote the opera *Adrienne Lecouvreur* based upon Colautti's adaptation of Scribe and Legouvé. Sarah was fond enough of the legend to write her own version of the story and performed it on her American tours. However it was the Scribe and Legouvé version which was filmed, although it is said that "Madame adapted the story for moving picture representation." Sarah's performance of the play in Canada brought her excommunication from a local bishop, and in New York it earned her twenty-seven curtain calls. The film was brief (1,783 feet) and did not create much critical controversy, except a critic's note that "historical personages were happily rendered." The public adored Bernhardt in death scenes, and all of her films to that date had them. As the 18th century actress Adrienne, Madame had Henri Desfontaines (of *La Dame aux Camélias*) as her costar. Directed by Louis Mercanton as a part of The Film d'Arte series, it was released in this country as *Adrienne Lecouvreur, An Actress's Romance Under Louis XV, in Three Parts.* Perhaps because of the length of this title William Connor, who owned the American rights, released the film later simply as *An Actress's Romance.*

By 1912 Madame was a figure of world renown and had at that time a

repertoire which exceeded that of any of her peers or predecessors. Her private life had been deliberately controversial and just as deliberately publicized. Americans seemed especially interested in this rare creature whose life and exploits were known to them through film, tours, biographies and her autobiography. If press coverage was so well received, it seemed logical to make a film of Madame in her Brittany salon. Who could resist being invited into the home of a woman who was the world's foremost actress, a painter and sculptress of considerable talent, a keeper of wild beasts and a tortoise covered with gold and jewels. What was the secret of a woman close to seventy years who could give a convincing performance as *L'aiglon,* the young nephew of Napoleon or who could face an audience as Saint Joan and declare her age to be nineteen? The two-reel documentary film *Sarah Bernhardt at Home* was made in 1912 by Film d'Art to satisfy the curiosity of the American Public who had first seen her on her world tour of 1880. This two-part film made on Belle Isle, her rock bound retreat on the coast of Bretagne provided intimate glimpses into the life of La Grande Sarah as she wished the public to see her. Among the rocky heights Madame is seen leading a retinue of devotees including her son Maurice who pants and wipes his brow as the undaunted Sarah continues the climb. Local fishermen whom Madame befriended during periods of near famine offer homage to their divine lady. Instead of the opulent salons of Paris, the viewer is offered a pastiche of vignettes showing Madame up at dawn to look after the lobster pots, feeding chickens, ducks, geese and pigs with her own hands. Her fondness for pigs was genuine, as she once had a *petite couchon* for a pet in Paris. Lunches *en famille* and *al fresco* show the gracious Sarah at her best. Fishing in estate pools stocked for her provides a glimpse of our lady as a sportswoman. Tennis matches, while remarkable for a woman of her age, are more remarkable when one considers that her ailing leg gave relentless pain. Of course, no one was allowed to best Madame at tennis or she would pout for days and the entire island retinue would suffer a brief excommunication from her person. Whatever the public expected from "Sarah Bernhardt at Home," they were rewarded with intimate glimpses, though contrived and sentimental, into



a woman who practiced the gentle art of *savoir vivre* with the same dispatch with which she eliminated her detractors. Could this gentle soul be the same figure who broke into the salon of Marie Colombier to horsewhip this actress who had written an uncomplimentary biography entitled *Sarah Barnum?* Most certainly!

War was raging in France in 1915 and as propaganda for the war effort Sarah participated in a film entitled *Meres Francaises* directed again by her old associate Louis Mercanton and written by her devoted playwright Jean Richepin. This story dealing with the courageous nurses at the front lines had the distinguished cast of Raymon Bernard, Signoret Gabriel, Louise La Grange, Berthe Jalabert, and support in direction from René Hervil. While this will never be a classic of film-making it is a great testimonial to the French spirit. But more dramatic than the film itself was the appearance of Madame at the front lines in 1916 to perform in the *Théâtre aux Armées* having already suffered through a painful amputation as a consequence of her *La Tosca* performance in Rio. She had suffered with this affliction for many years as the result of damage to her knee while still



La Petite Sarah photographed
by Downey of London
(unpublished)

Madame in *fin de siecle* dress,
age 70 (unpublished photo by
Downey of London)

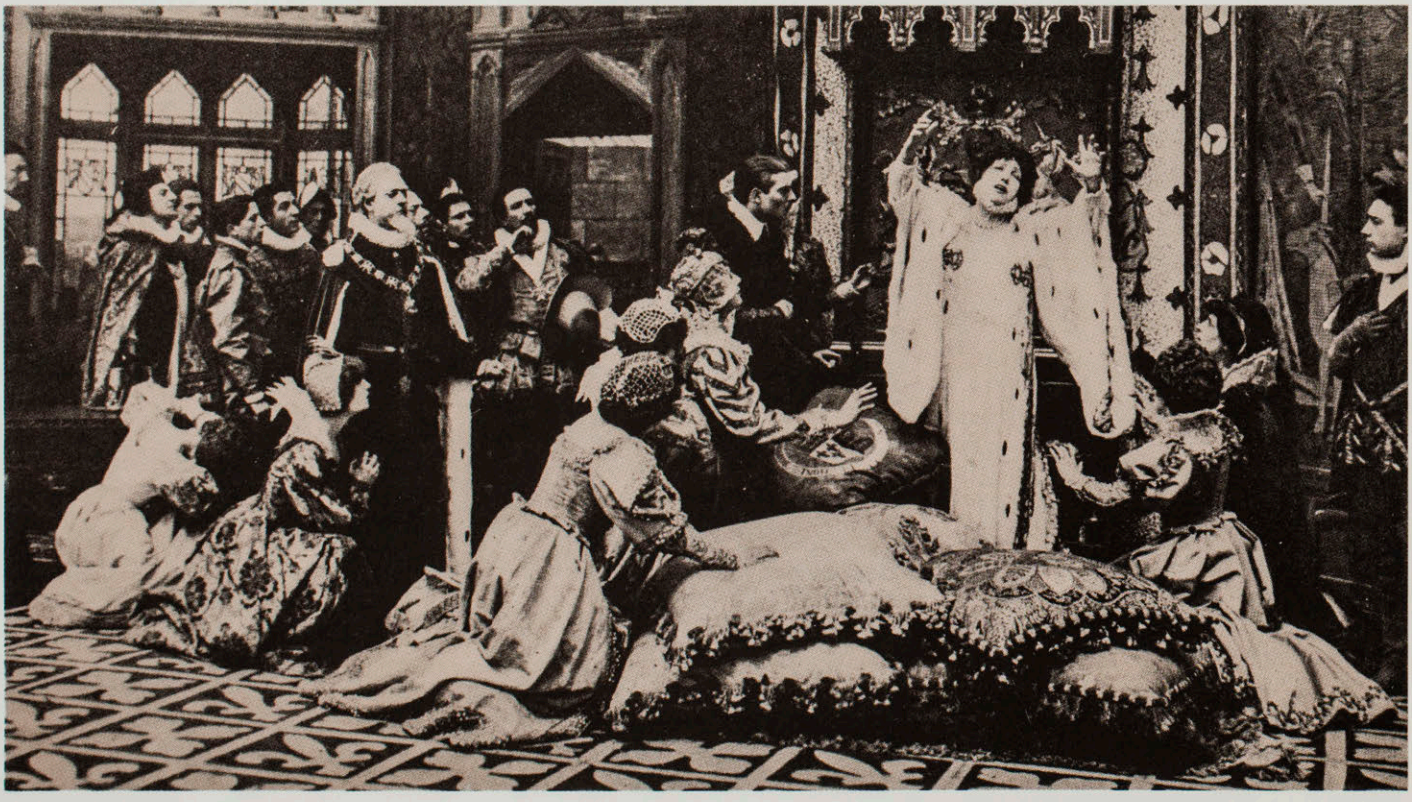


Sarah as Floria Tosca in
La Tosca



Lou Tellegen and La Grande Sarah in *Elizabeth the Queen*

Elizabeth the Queen; the death of Essex





Madame Sarah as *Adrienne Lecouvreur*

a child. Now she would do without the miserable appendage. Accepting no false limbs, Sarah would either be strategically placed upon a stage or would be carried in on a litter in regal splendor. This earned her the name "mistress of the chair," an appellation distasteful to her. Needless to say she was an inspiration to thousands of French soldiers who could for a moment forget their own wounds and admire the indomitable Sarah. Film d'Arte did not release this film in the U.S. until 1919, as a World Films presentation "Mothers of France." *Meres Francaises* was released in France in 1916 while Bernhardt was already busy on another film, *Jeanne Doré,* written by the humorist Tristan Bernard, and once more directed by Mercanton of Film d'Arte. This rather morbid drama concerns the mother of a man accused of murdering the seducer of his beloved. The final scene permitted Sarah, as the mother, to enact one of her greatest scenes in which she visits with her son via a prison door, and is mistaken for his beloved; this poignantly portrayed deceit allows the son to go to his death reassured of the love he thought lost. *Jeanne Doré* had been popular throughout Madame's tours in Europe and was enacted through the year 1914.

Concerning the production of *Jeanne Doré,* The Divine Sarah was interviewed by H. H. Van Loan. Her comments further substantiate the confidence which she had in cinema as the dominant emerging art form. "The eye," relates Madame, "is the mirror of the brain, and the cinema has given to eye-play an infinitely greater scope, power, and importance. A true artist needs no audience to assist her art." While New York was staging an exhibition entitled "The Divine Sarah," a private showing of *Jeanne Doré* screened in Paris to acclaims of the subtlety with which she rendered her part. Not only critics were pleased with the motion picture, but Sarah herself voiced her approval. Carl Laemmle, president of Universal Film Manufacturing Company which had been responsible for the U.S. release was so convinced of the success of Bernhardt on film that he stated, "I am convinced that Sarah Bernhardt will never be seen in the flesh on the stage again." Sarah had been close to death only months before she embarked on this rôle, and while she did not appear haggard, the pain and suffering was apparent — all too appropriate to the part. At 71 Madame worked with the vitality and energy of a young actress, even though it is reported that she went directly from the hospital to the studio to accomplish this film. Every detail was overseen by Madame who now had an excellent sense of cinema. Appearing in over one hundred scenes in this film, it was necessary for her to position herself strategically for reason of the absent leg. With her old friends in the cast, Mlle. Seylor as Mme. Tissot; Mlle. Costa as Louise, and M. Raymond Bernard as Jacques Doré she was in familiar company. This combination had repeated successes on stage before advancing to film, and Sarah was constantly instructing them on cinematic deportment.

Sarah reportedly found it a distinct help to be supported by "real scenery" in moving pictures. She enjoyed the brevity of each scene which allowed "faculties to be concentrated to a much higher degree than on stage." A peculiar comment in light of present film making is the following: "Another feature about moving pictures which strikes me favorably is that once a scene has been acted and taken, repetition is unnecessary. After having repeated performances many hundreds of times, I find the variety and change

of moving picture acting an excellent mental stimulant." While these comments were directed toward the production of *Jeanne Doré*, they capture Madame's basic attitudes toward cinema as it existed in 1916. Much of this interview is directly antithetical to what biographers have said of her disposition to moving pictures.

After making appearances in a host of farewell performances, it should not have been necessary for La Grande Sarah to do any acting late in life; on her American tours alone she made nearly six million dollars — in gold, a sum which was spent as quickly as it was earned. Driven by her compulsion to sustain the legend as well as to pay her own way through life, Sarah announced in 1922 that she would appear as a clairvoyante in Films Abdore production of *La Voyante* with Sacha Guitry, Harry Baur, Lily Damita, Georges Melchoir, Francois Fratellini and Mme. Paquerette. It did not take the power of a clairvoyant to ascertain that Bernhardt was in the process of dying. In 1915 her leg had been amputated and she was near death several times as a result of chronic uremic poisoning. Even the Boston Sunday Advertiser for March 18, 1923, made grotesque headlines reading, "Bernhardt, Dying, Acts for Movies." Leon Abrams, a young American in Paris, was to produce this film under the direction of Louis Mercanton. The sum agreed upon was five thousand francs per day for Madame, but this must have been negotiable, for to her granddaughter she said of the filming, ". . . now don't object . . . they pay me 6,000 francs each time I pose." To another friend she revealed the sum to be ten thousand francs per day. Madame was a star and she knew it; no sum was too exorbitant to capture the greatest actress of two centuries.

It is true that at this period Madame was in financial difficulties and needed all of the revenues that such a film might provide. She had never required the support of others and was too proud to accept it now when she was so near death. Promotional advertising seemed premature, but she allowed herself to be photographed at the rear of her house in Paris with her favorite chimpanzee. While the film was initiated in a studio in Paris, by mid March Madame was so ill that she requested that the company continue filming in her home on the Boulevard Pereire. Her stunning eyes were so weakened by the burgeoning toxins in her system that Madame had to wear dark glasses between all of the takes. A few frames of this film reveal a corpse-like figure bent over tarot cards, the kohl beneath her eyes heightening the effect. On March 22 after several comatose states had interrupted filming, the indefatigable of Sarah announced, "They can now film me in bed." Props of the city of Paris were placed in the room and the company continued against the wishes of all but the magnificent and heroic Bernhardt. On the following day it was no longer possible to continue. Sarah had a very simple request, it was spring in Paris and she asked her son, Maurice, to cover her with lilacs and Parma violets. A priest was brought to administer extreme unction, and at 8:05 A.M. on March 25, Sarah's lifelong dream was realized "to become a legend during my lifetime, and not to be dead before dying."



The life that Edmond de Goncourt, foremost chronicler of the fin-de-siecle, had described as, "the most remarkable phenomenon of the nineteenth century" had come to an end. Eight films and about a dozen recordings preserve for us the visage and golden voice that dominated the world for over sixty years.

ACKNOWLEDGMENTS

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Sarah as a youthful
Mrs. Clarkson in "The Stranger"
(collotype)

Madame as *Jeanne Doré*
(on stage)



Sarah filmed only hours before
her death; *La Voyante*



HERE IT COMES AGAIN

by **C. F. Richter**

Note this well: In past earthquakes, about 90% of the loss of life, and well over half the damage and destruction, have been due directly or indirectly to the failure of weak structures such as would never be erected under any modern system of building regulation and inspection.

Working over many years in a field subject to repeated catastrophic crises leads one to notice how little change there is, from one occasion to the next, in the pattern of public response. Sometimes there is so much failure to profit from previous experience that one inclines to question whether our society ever really progresses, or whether anything fundamental is ever learned. Fortunately, there have been some genuine advances in the procedures of offices which plan for emergencies, and govern the manner in which they are handled.

Living in California since childhood naturally made me conscious of earthquakes; I first felt one in 1910, and was within the areas shaken by those which were damaging at Inglewood in 1920 and destructive at Santa Barbara in 1925. My most instructive experiences with earthquakes have been in 1933, 1940, 1952 and 1971.

I became associated with the seismological program in southern California in 1927, in a partly accidental way. Operations then were still going on under the shadow of the great earthquake calamity of 1906.

In other countries — Japan and Italy, for instance — such calamities have led, at least temporarily, to official action, and to the setting up of government agencies for the study of earthquakes, with the object of reducing their destructive consequences. Sometimes such programs have been justified by holding out the hope of predicting earthquakes — an uncertain objective which appeals to the popular imagination, but is of very doubtful prospect and still more doubtful eventual usefulness.

After the earthquake of 1906, destructive at San Francisco and adjacent communities, a California state earthquake commission was set up, headed by the distinguished geologist, Andrew C. Lawson. The report of the commission is still a landmark in the scientific understanding of earthquakes. Moreover, Lawson and others founded the Seismological Society of America, which began publishing a regular bulletin in 1911.

These praiseworthy operations had little effect on the general California community. Instead, there developed a psychology of "let's not look and maybe it will go away." A large proportion of citizens were heavily interested in "developing" the state, which meant making money especially out of the tourist and real estate industries. Talk about earthquakes was considered bad for business, therefore bad form; pressure was brought on newspapers to minimize or omit reports of earthquakes. The lessons that might have been learned from the experience of 1906, with their possibilities for saving lives and property, were first ignored and then forgotten.

Like most of the public, insurance offices and agents were unaware of the true state of affairs. Earthquake insurance was written lightheartedly, with no attention to soundness. Consequently, when the earthquake of 1925 damaged or destroyed a large fraction of the commercial structures in the center of Santa Barbara, insurers found themselves suddenly faced with a very heavy total obligation. Some offices abruptly increased premium rates on earthquake insurance; some discontinued writing it altogether.

The Santa Barbara earthquake had a salutary effect on building standards. Engineers, architects, and insurance groups had already been cooperating for some years toward the formulation of sound building practices. Earthquake resistance was only one facet of their problem, since up to about 1919 there was practically no organized building regulation in California; offices issuing permits mainly concerned themselves with the crudest requirements of fire safety and of sanitation. One result of concerted effort was the Uniform Building Code; in successive revisions it has continued to provide a generally recognized basis for local regulations.

Damage in the Santa Barbara earthquake conspicuously exposed deficiencies in building. Such were the erection of masonry walls, some of them bearing the load of the structure, but having no reinforcement and no horizontal strength. Such also was construction of buildings consisting of two unrelated structures in contact, which damaged each other by relative displacement during shaking.

Alarm following the Santa Barbara earthquake was accentuated by preliminary publication of some incompleted reduced government survey work, which on the face of it indicated large motions of the ground west of Santa Barbara in a comparatively few years, suggesting that a very great earthquake might be expected soon. The large motions were not confirmed when the reduction of the data was completed.

In this period of anxiety a group of business men sponsored the printing of a book, written by a geologist of good reputation, which set forth that there was no serious earthquake danger in the Los Angeles area. The author ignored many known historical facts. Moreover, he minimized the Inglewood earthquake of 1920 and insisted that the Inglewood fault was not a serious source of risk. This book, which appeared in 1928, was an annoyance to informed seismologists until the Long Beach earthquake of 1933 rendered it ineffective and obsolete.

In 1933, the Seismological Laboratory at Pasadena was under administration of the Carnegie Institution of Washington; but there was substantial contribution by the California Institute of Technology, (which took over the program at the beginning of 1937). In charge of the laboratory was Mr. H. O. Wood, who was responsible to a committee set up by the Carnegie Institution. In addition, Dr. Beno Gutenberg had come from Germany in 1930 to assume a professorship at Caltech; he had an office at the laboratory, and was in effect a member of its research staff.

Since coming to the laboratory in 1927, I had been occupied largely with measurement and interpretation of seismograms, leading to location and cataloging of earthquakes in southern California. This cataloging showed a need for classifying earthquakes as objectively as possible, to distinguish between large and small events. In pursuing this aim the instrumentally founded scale of earthquake magnitudes unexpectedly fell into my hands, to the surprise of Wood and Gutenberg as well as myself.

This is not the place for technical details. The reader, if he wishes, can examine a full account of the magnitude scale in my textbook; briefer explanations are given in pamphlets distributed from the Seismological Laboratory. Of more present interest are the findings on the effects of earthquakes assigned to various magnitudes by means of seismograph recordings. Thus, earthquakes of magnitude below 3 are small, and may escape notice apart from



East stairwell wing of the brand new Olive View County Hospital. Notice the leaning pillars. The entire building is supported on these pillars from the basement to the top of the first floor. The stairwell wings, vibrating at a different rate than the rest of the building, collapsed, and pulled loose from the rest of the building. The building came within about two or three seconds of complete collapse.

Photo by Miss Nancy Pearlman

instrumental detection. Those of magnitude 3 and over are usually felt near their points of origin. Locally damaging earthquakes are commonly of magnitude 5 and over; earthquakes destructive over a limited area, such as the Santa Barbara and Long Beach earthquakes, are in the magnitude range from 6 to 7; major earthquakes are of magnitude 7 and over; and great earthquakes, like the California earthquake of 1906 or the Alaskan earthquake of 1964, range from 8 up to not quite 9.

In 1933 I was living in Los Angeles; but on the evening of March 10 I intended to attend a chess club meeting in Pasadena, and at 5:54 p.m. I was still at the laboratory with two others, Dr. Benioff and an assistant. Most of our seismographs at that time recorded photographically, and their recordings were available only after the sheets were removed from the rotating drums and developed. This proved inconvenient, especially in dealing with inquiries from the press, so that a seismograph was set up to record visibly in ink. It was a relatively crude system, but adequate for emergencies.

From my office door I could see the ink-writing instrument begin to deflect, just as I felt an earthquake shaking the building. With appropriate remarks I headed for the recorder — which shortly ran out of ink and was restored to operation only with some trouble. The main disturbance was too large and complex to be read for detail; but from some of the smaller aftershocks we could estimate the distance of the source.

Soon Mr. Wood arrived, leaving unused his ticket for the night's performance of "What's Happened to Jane." My club meeting was canceled. Dr. Gutenberg came in, elated at having felt his first earthquake; for, although he was an internationally recognized authority in seismology, such opportunities were infrequent in Germany, and he had missed them.

With amusement, Gutenberg related a circumstance which has since become famous. He had attended a seminar on the Caltech campus, together with the renowned Albert Einstein. Leaving the hall, they were walking together and talking about earthquakes, when they were approached by Dr. Huse, who asked if they had felt the earthquake. They replied, naturally, "What earthquake?" This is not such a glowing example of academic absentmindedness as might be supposed. The Long Beach earthquake shook Pasadena only moderately, and out of doors was noticed chiefly by those who were quiet, or who happened in the dusk to observe the swaying of trees or wires. Afterwards, especially at the laboratory, Dr. Gutenberg felt many of the aftershocks, which were perceptible there at intervals all night.

In the following days I was going about with a portable instrument, recording aftershocks at various temporary locations, and examining the affected area for evidence of the degree of shaking, to be used later in mapping. Mr. Wood was much occupied by conferences, in person and over the telephone, not to mention correspondence and official reports.

As always after a strong earthquake, many persons, including officials, were almost pitifully eager to be assured that the shaking would soon cease. Such assurance could not be given; as was to be expected, occasional perceptible aftershocks went on for months. Indeed, a strong one on October 2 added materially to the damage, especially to structures affected by the main earthquake and not yet repaired.

On the other hand, there was a regrettable tendency of news media, to some extent in print but conspicuously over the air, to suggest that "another big one" was expected momently. This kind of needless alarm is contrary to the pretense of news offices to act in the public interest; it almost never fails after a large earthquake. A few years ago, following a disastrous earthquake in Iran, an American news source broadcast such a false report; the resulting scare seriously hampered rescue and relief work, and drew an official protest from the Iranian government.

After the Long Beach earthquake, an unintentional excuse for scareheads was provided by Mr. Wood at an official conference, where he gave it as his opinion that earthquakes of comparable magnitude would continue until the accumulated strains were released in a major earthquake. He did not make it sufficiently clear that he was considering, not merely the local Long Beach and Los Angeles area, but the whole of southern California. In fact, from 1915 through 1954 there were 24 southern California earthquakes of magnitude 6 or over (the 1933 shock rated 6.3), plus several more in adjacent Mexico. Most of them centered in



Fault scarp in the Repetto Formation in Lopez Canyon. Miss Barbara Lowe, Museum Curatorial Assistant, has her hand on the face of the scarp, indicating the angle of movement. The low cliff behind her rose three feet upward and about two feet to the left. The box behind her, about ten feet from the edge of the scarp, is a U.S. Geological Survey portable seismograph station. This is probably the most spectacular fault scarp that formed during the shock.

Photo by Armando Solis



Fault scarp distorting the asphalt and garden of the Donaldson Corporation in the San Fernando Industrial Park north of Foothill Boulevard. Over three feet of upward movement occurred in faults in this area.

Photo by Armando Solis

mountain or desert areas, and attracted relatively little public attention. There was a striking pause from 1954 to 1968; but in April 1968 there was an earthquake of magnitude 6.5 in the mountain and desert region of northeastern San Diego County. The next such event was the San Fernando earthquake of 1971.

The 1933 Long Beach earthquake provided an example of another perennial type of scare; during the night one local station repeatedly broadcast a baseless "warning" of a huge sea wave approaching the coast. Many persons were deceived, and abandoned their homes for high ground, to no purpose.

One hundred twenty lives were lost; and the damage, originally estimated at 50 million dollars (at depression prices), proved to be significantly higher when small items were totaled. Yet there might have been no public action, had it not been for the conspicuous failures of school buildings, particularly in the Long Beach area. The earthquake mercifully waited until 5:54 p.m.; had it struck three hours earlier, hundreds, possibly thousands, of school children would have been killed and injured.

By the legislation known as the Field Act of 1933, standards including provision for earthquake resistance were established for all new public buildings, including schools. This action was eminently successful. In 1940, 1952 and 1971, school buildings erected under Field Act requirements were damaged only slightly or not at all, whereas older buildings in the same area, sometimes on the same grounds, suffered damage of the type seen in the Long Beach earthquake.

The Field Act could not be made directly retroactive so as to require that buildings older than 1933 be brought up to the new standards. However, it was provided that such buildings might be subjected to official inspection; if they were found unsafe, any consequences of continuing them in use became the personal responsibility of local authorities (such as school board members).

This last provision, intended to bring about gradual improvement, was soon rendered a dead letter. When buildings were found to be below standard, or even when they were condemned as unsafe, a bond election was usually called to provide necessary funds. Generally, these bond propositions were promptly voted down. It was then held that this absolved the school boards or other authorities, and the questionable buildings were calmly returned to use.

In 1965 the office of the State Attorney-General issued a ruling in effect invalidating this practice, and continuing the responsibility of local authorities, no matter what the result of a bond election might be. In many communities this led to a scramble to meet Field Act requirements; reconstruction was begun which might have been done years earlier at lower cost. Further legislation has now set a deadline after which schools not meeting Field Act standards may no longer be used.

Progress toward safe school buildings thus has been real, though imperfect. Very little has been done about hospitals; the calamity of 1971, it is hoped, will remedy that. Large public buildings — city halls, courthouses and the like — often become public issues; there is a wish to preserve them, even when architecturally monstrous, as historical monuments. Often, when such buildings appear to be unsafe, it is proposed to convert them into museums; but this is objectionable because of probable attendance by large groups of school children. All museums, private or public, should have careful scrutiny with regard to safety.

Many of the most serious earthquake risks remaining in California are privately owned buildings in commercial use as shops, stores, warehouses, hotels and apartments. For the State and local administrations these present a difficult problem. Redevelopment and modernization gradually replace such structures, but not fast enough. Administrative action meets with many obstacles, legal and otherwise.

Since the 1933 earthquake originated on the neglected Inglewood fault, it drew attention to the widespread nature of earthquake risk. Great earthquakes may be expected to center on the San Andreas fault, or on major faults like those on Owens Valley; but active faults likely to be the seat of locally destructive earthquakes are everywhere.

The 1933 earthquake confirmed the previously known effect of unconsolidated ground in enhancing earthquake shaking. The naive idea that soft foundation may act as a cushion is not borne out by experience, thus at San Francisco in 1906 the most destructive effects were along the lower part of Market Street, on land reclaimed from the bay; while residences and other structures on the hills were comparatively undamaged — a circumstance obscured by the general effect of the fire following the earthquake. In 1933 the heaviest shaking developed on the deep alluvium of the Los Angeles Basin (in Los Angeles and Orange counties), or on low ground near the coast. Damage at Long Beach and San Pedro contrasted with slight damage, if any, in the residential developments on the adjacent Palos Verdes Hills.

My second extended experience with earthquake damage was after the Imperial Valley earthquake of 1940. The principal towns — El Centro, Holtville, Brawley, and Calexico-Mexicali — were all severely shaken, with notable damage. At El Centro a low-magnification strong-motion seismograph wrote a record which became a standard of reference for engineers interested in earthquake-resistant construction, until the 1971 earthquake produced new and better records of the kind in large number.

On this occasion my time in the field was largely employed in following the Imperial fault, where displacements occurred like those along the San Andreas fault in 1906. The most costly consequences of the earthquake resulted from this faulting; the system of irrigation canals was ruptured, and the main supply of water to the west side of Imperial Valley was cut off for about a week. Much of the canal system had to be re-excavated and replaced. Spectacular results of the shaking were seen in the Yuma Valley, Arizona, where underground water was ejected in high spouts, bringing up sand and mud and disorganizing irrigation.

Many important lessons, only partly foreshadowed by previous experience here and abroad, were drawn from the major earthquake which affected most of Kern County and adjacent areas on July 21, 1952, with a long series of aftershocks, some of them large and important.

In Pasadena, I was awakened by the main shock at 4:52 in the morning. I arose hastily, and in no cheerful mood, for I had been about to begin a vacation, and felt it would have to be postponed. In fact, I took no proper vacation that summer, although I got plenty of travel and fresh air, going round the disturbed area with portable instruments. Others of the laboratory personnel soon dispersed for the summer, and a full staff was not available again until September. I was left with more than I could



Shattered and posted "unsafe" house west of MacLay Street, North of Foothill Boulevard. Proximity to the faults created havoc in residential areas. Two story stucco houses fared badly. In this particular area the majority of houses were abandoned.

Photo by Armando Solis



Broken railroad track next to San Fernando Road in Sylmar. One of the shattered converter stations is in the background. The Southern Pacific Railroad kindly cut off the ends of the snapped rails and they can be viewed in the Earthquake Exhibit in the Geology Hall of the Museum. These rails were not defective in any way.

Photo by Barbara Lowe

handle alone, and many valuable opportunities were lost.

This earthquake gave strong warning of the incompleteness of our knowledge of possibilities in California. It originated on the White Wolf fault, which passes south of Bakersfield with a roughly southwest-northeast trend. The fault is partly submerged under the deep deposits of the San Joaquin Valley, but passes near Arvin and thence into the Tehachapi mountains as a recognizable fault feature. It had been described years before by Lawson; but no one had considered it as a potential source for a major earthquake.

Popularly this was called the Tehachapi earthquake. The town of Tehachapi had much conspicuous damage and the largest local death list, and received most of the attention from the press and the authorities; other places, like Arvin, where there was also a serious situation, received much less assistance. Most of the structures damaged at Tehachapi were of the weakest sort, inferior brick masonry or adobe. Conspicuous was a concrete structure, originally a lodge hall, which was undamaged and served as shelter for the homeless and the injured.

Instrumental location of aftershocks showed that those of the first few days were distributed mainly over a roughly rectangular area south of the White Wolf fault, representing a crustal block which had been displaced as a unit. On July 29 aftershocks began to occur on a line further north, nearer Bakersfield. They seemed to indicate a subsurface fault nearly parallel to the White Wolf fault. The surface and near-surface geology of that area is well known from oil exploration; the structures trend roughly northwest-southeast, while the presumed active deep fault is transverse to them.

In the main earthquake most of the damage to buildings, and all the casualties, were due to shaking; but the most costly damage was directly due to displacement on the White Wolf fault, which put six tunnels on the Tehachapi Pass railroad route out of service; it was over three weeks before temporary reconstruction had advanced sufficiently for traffic to be resumed.

On the deep fault near Bakersfield there occurred on August 22 an earthquake of magnitude 5.8, which caused more damage in the city than the major earthquake of July 21 (magnitude 7.6). Some of this new damage was cumulative; structures weakened in July failed in August. However, there is no doubt that this smaller earthquake, originating nearer to Bakersfield, shook it harder. Two lives were lost in the city, which had not happened there in the main event; so that this aftershock became known to the press and populace as "the killer earthquake."

This Bakersfield aftershock provides a good instance of the doubtful wisdom of issuing assurances immediately after a large earthquake that the worst is over and no further strong shaking is to be expected. It is the opposite number to the journalistic scarehead that "another big one" is looked for.

Effects of the July earthquake in the central part of Los Angeles were of peculiar interest. Many of the larger business blocks sustained minor, but expensive, interior damage like that caused in the same buildings by the 1933 earthquake; but the smaller brick masonry blocks, some of which were badly damaged in 1933 and 1971, were relatively unaffected in 1952. This is due to the different character of shaking; the 1952 earthquake, of larger magnitude and centering at greater distance, produced relatively slow, large oscillations.

Beginning at 6:01 a.m. on February 9, 1971, I went through a repetition of many familiar experiences. This time I had a seismograph in my home, and was able to check at once. When an earthquake begins there is no way anyone, seismologist or not, can tell what is going to happen next. On this occasion the initial strong shaking persisted long enough so that I considered it might be the beginning of a major earthquake; but after thirty seconds the perceptible shaking, and the recorded oscillations on the seismogram, were not increasing, so that it was clear that we had to do with another moderately large event, perhaps a local disaster. I prepared to go to the laboratory, not in too much haste. Since my retirement I am not completely familiar with the small details of the recording system; and I knew I could depend on the emergency staff, especially Mr. Nordquist and Miss Engen, to get to the laboratory as soon as possible and begin analyzing the data. I snatched a breakfast, and answered a few telephone calls; not to much purpose, since I could give no details, and hesitated to offer estimates which might cause confusion when better information became available. Some reports were being heard via radio and TV; KNBC, finding that the main power at their Burbank studio had failed, was broadcasting from a portable unit in the parking lot.

Arriving at the laboratory about 7:30, I met three portable recording units on their way out; others followed soon. The main epicenter, the spot over the point of initial fault rupture, had already been located in the mountains east of Newhall. Work was going on with location of aftershocks, which indicated a considerable extent of faulting. The laboratory lobby was gradually filling up with press representatives, TV pickups, and broadcasting personnel. I talked to some of these men to take some of the pressure for information and comment off of the working staff.

News was still coming in only piecemeal. The disaster with loss of over 40 lives at the Veterans' Hospital was only just then becoming known; a broadcast received at the laboratory gave me my first word of the near failure of the dam at the Lower Van Norman reservoir above San Fernando Valley.

For several years I have been a member of a consulting board for the Department of Water and Power, City of Los Angeles, with reference to the safety of dams and reservoirs. This Lower San Fernando Dam, dating from 1913, had long been a matter of concern; this was one of the first problems studied by the consulting board. The chief question had to do with seepage through the east abutment, which was controlled by grouting operations, and apparently did not affect the damage to the dam in the 1971 earthquake.

Engineers of the Department had previously calculated that sufficiently hard shaking would cause part of the dam to slide out toward the reservoir; the actual effect was close to their calculations. The main portion of the dam remained standing and holding water, the level of which was being lowered as rapidly as practicable. It was calculated that 2 to 3 days would be needed to bring the water down below the level of the protecting buttress fill; meanwhile, residents were evacuated from the area below the dam.

On the first day a ridiculous misunderstanding led to the myth of the "broken" magnitude scale. The average news reporter, especially when off the scene and getting his information at second hand, is unable to accept that there may be good reasons why he does not immediately get answers to

Masonry maintenance building at Olive View Hospital. Unreinforced masonry collapsing caused the most deaths in this earthquake, in the 1933 quakes, and in practically every disastrous earthquake the world has had.



Fault slicing stairs and entrance wall of the Donaldson Corporation in San Fernando Industrial Park north of Foothill Boulevard.
Photo by Armando Solis



the questions uppermost in his mind. Instead, he usually tries to make it appear that someone or something is at fault. Soon after the main earthquake, the station of the University of California at Berkeley, and the national center at Washington, agreed on a preliminary magnitude of 6.5. To me, and to the busy laboratory staff, this appeared quite sufficient for the time being.

Many persons, including newsmen, are under the delusion that the scale is itself an instrument. Actually it is a system of tables and charts, used to interpret records written by standard seismographs, and incorporating compensation for the decreasing earth motion with increasing distance from the source. The scale is thus applied to the largest deflection written by the instrument during the earthquake.

Now, seismographs kept in visible operation for immediate references are usually of moderately high magnification; and even the somewhat less sensitive standard instrument writes an unmanageably large record if the shaking is locally strong. On this occasion, the recording index on each of the directly available sheets (a pen writing in ink) moved out to its fixed limit, at which there is an automatic safety cutoff.

To take care of this kind of effect, at the Pasadena station there are six instruments recording with low magnification for studying strong motion. However, they record on photographic film, which has to be developed. Even after this was done, the working staff saw no reason for interrupting more urgent work; so that a revised magnitude (6.6) was not available until next day. Instead, priority was given to the location of epicenters, for the main shock and the numerous aftershocks; this was needed in directing the portable recording units and other field workers, and in giving information to the authorities in connection with policing and disaster operations. It was soon found that a belt of aftershocks extended, from the main epicenter east of Newhall, out of the mountains and under the San Fernando Valley; extended faulting was indicated. In consequence, equipment and investigation was in part redirected.

Returning home later in the morning, I witnessed the TV broadcast of the spectacular Apollo 14 splashdown. In the intervals, I found several channels giving good coverage of the earthquake effects. Special credit goes to KTLA (channel 5), which chartered a helicopter flight over the reservoir and the surrounding heavily affected area, giving very interesting and informative views. Understandably excited, the helicopter crew repeatedly pointed out the failure of the "concrete dam." The Lower Van Norman dam was of earth construction entirely; but there was a thin concrete facing on the reservoir side, which broke and slid out along with part of the earth structure.

Next day, I was called into consultation regarding the advisability of maintaining evacuation. It was necessary to point out the serious possibility of an aftershock of magnitude 5. Although much smaller than the main earthquake, it might shake the vicinity of the weakened dam severely. This reached the news media by way of the Los Angeles city offices, in a form which was seized upon by certain broadcasters as an excuse to assert that I had confidently predicted another shock "almost as big" as the first one. Such pairs of strong earthquakes do occasionally happen (for instance, at Helena, Montana, in 1935) but they are relatively uncommon.

Quotations were further confused by a device employed by journalists and broadcasters on every such opportunity. Seismologists are then invariably questioned about the possibility of a great earthquake in the area. Naturally, since the earthquake of 1857, which originated on the San Andreas fault in southern California, and was comparable in magnitude with the earthquake of 1906, the possibility is beyond doubt. A legitimate inquiry related to the effect of the San Fernando earthquake, postponing or hastening the expected greater event; to this the proper answer is that we do not know. My guess is that even earthquakes of magnitude 6.5 do not much affect the steady accumulation of strain toward the major break, which will come in its own good time. Nevertheless, all such questioning gives opportunity for distortion, since it is easy to confuse the constant indefinite expectation of a large earthquake with the immediate and comparatively certain expectation of aftershocks.

On March 31 an aftershock of magnitude 4.9 centered near Northridge and Granada Hills, adding considerably to the total damage in that area. Most regrettable was the renewed damage to houses located on the fault trace in the Sylmar area, where the owners had undertaken expensive repairs. There may well be another such occurrence; strong late aftershocks have followed other earthquakes in southern California. At Santa Barbara there was one a year after the main shock, to the day.

On the whole, the conduct of the news media in 1971 was more reasonable and more in the public interest than on many previous occasions. Perhaps the only serious offense was that of a broadcaster on one of the minor stations, who tried to enliven his program by introducing a burlesque interview with a soothsayer who was represented as prophesying another catastrophic earthquake. After the event he claimed to be surprised that anyone should take such a farce seriously — which proved his ignorance of the public, and his unfitness to appear before it. One might say that those who were alarmed by such nonsense deserved to be; but of course the matter was repeated about, and touched off a flood of time-wasting telephone calls to police, relief agencies, scientific laboratories and news bureaus. Even a "disc jockey" should know that a time of disaster is not a proper occasion for tomfoolery.

Both from the geological and the engineering point of view, the San Fernando earthquake of 1971 is of the greatest importance. This is largely due to the exceptional number of technical personnel, and the quantity of equipment, brought to bear in the investigations.

Our confidence in the adequacy of geological study to identify potential earthquake sources has been somewhat undermined. It appears that a triangular block of the earth's crust, with its apex east of Newhall, detached itself along the two sides, by fracturing at depths of 5 to 8 miles. None of this fracturing broke up to the surface, or showed any relation to known surface faulting (in that respect, it was like the faulting near Bakersfield in 1952), except that the base of the triangle was thrust out and up toward the San Fernando Valley, producing relative uplifts along lines previously recognized as faults, although not seriously considered with relation to earthquakes.

This opens the possibility of other important deep fracturing which cannot be inferred from surface geology. Nor is it certain that such deep fractures might be identified by the methods of geophysical exploration. If they were constantly active and producing small earthquakes, they could be detected



This three story unreinforced brick hotel in downtown San Fernando, except for the T.V. set, could just as well be a picture of an old brick building in the Tehachapi 1952 quake or of Brawley in the Imperial Valley 1940, or of Long Beach in 1933. Unreinforced masonry buildings are "time bombs," and there are still thousands of these in existence, particularly in downtown Los Angeles. An eight magnitude earthquake in this area would undoubtedly bring them crashing down.

Photo by Armando Solis

by seismographs; but many years of recording has shown that generally small earthquakes do not cluster or align in any significant way; most of them are scattered irregularly over the whole of southern California.

Suspicion is now directed more than ever to evidences of active faulting at the front of the San Gabriel Range. The Raymond fault, passing through Pasadena, is almost certainly active. Farther east, faulting has displaced terraces in the vicinity of Alta Loma and Etiwanda, and in that area a number of minor earthquakes have caused local damage. To the south, the Whittier thrust fault fronts toward the Los Angeles Basin; its association with earthquakes is uncertain, but the Norwalk fault, still further south, is a feature like the Inglewood fault, and has been the seat of several earthquakes. One of the latter, in 1929, was damaging at Whittier, Norwalk, and Santa Fe Springs.

The remark about losses in past earthquakes, with which this article is headed, needs revision for the 1971 event. The death list stands at 64. Of these, over 40 died because of the failure of two old buildings at the Veterans' Hospital near Sylmar. These structures were not quite so deficient as most of the masonry which failed in this and earlier earthquakes. Erected in 1926 and 1928, they were better than average for that time, when design against earthquakes was only beginning to be considered in California. Nevertheless, they failed disastrously, while newer buildings on the same grounds were only moderately damaged.

Of other deaths listed, about half were due to heart failures, a common accompaniment of all disasters. The remainder were mostly attributable to failure of antiquated weak masonry. The major cost of damage in this earthquake, however, applies to comparatively modern construction. The largest single item was the total loss of a new hospital building at Olive View. Great damage was done to new highway structures; and in the San Fernando Valley there was very general damage to sewers and underground utility connections, which had to be repaired in haste at high cost. The replacement of the Lower Van Norman dam facility does not represent a cleancut loss, because reconstruction had already been planned before the earthquake. Precisely what changes and new construction are now to be undertaken there is not yet finally settled.

The general picture of conspicuous damage was of familiar character. Masonry buildings along the principal street in San Fernando presented appearances easily matched from 1933 or 1940 or 1952. As was done in Bakersfield after the earthquakes of 1952, many three and four story brick structures are being cut down to one or two stories.

In Los Angeles there was havoc among the old adobes of Olvera Street, where they constitute a sort of historical monument. In the central and downtown area many old brick buildings now rendered unsafe had been damaged in 1933 and patched up inadequately.

The tall city hall, on relatively unconsolidated foundation, suffered much expensive interior and exterior damage. The new high rise buildings, most of them on the comparatively good foundation of Bunker Hill and adjacent elevations, showed small interior damage at most. The tendency to hail this as an engineering success is somewhat dampened by the realization that the shaking, recorded by instruments in the same buildings, was only slightly greater than the minimum they were designed to withstand, and much less than that in the San Fernando Valley.

Instrumental recordings of this kind resulted from a government-sponsored program, which installed strong-motion recorders in large buildings in the Los Angeles area, and at dam sites and other critical locations all over California. Study of the great number of new 1971 records, far from complete at this writing, will have important bearing on design to resist earthquakes. Extraordinary strong-motion records of extreme interest were written in the heavily shaken area.

On the alluvial area including and surrounding the upper Van Norman reservoir, effects of heavy shaking developed such as have been described chiefly for great earthquakes: fissuring, cracking and warping of the ground, with emergence of water to the surface; nearly horizontal shifting of soft ground; complete destruction of foundations and overturning of heavy structures. I had seen some of these effects in the thinly populated area south of Imperial Valley in 1940.

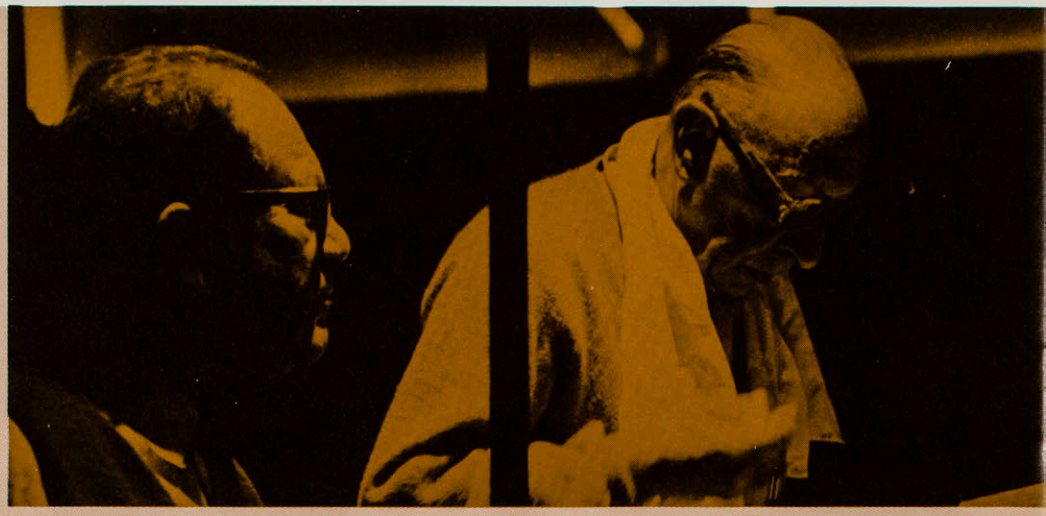
From the engineering point of view, perhaps the most important new result from this earthquake was the single great surge or lurch which took place after the strong and rapid oscillations had been going on for some time. This earth wave is well shown on the seismogram written at Pacoima Dam; it reached an acceleration slightly higher than that of gravity, which means that structures were pushed horizontally by a force somewhat exceeding their weight. Among its effects were the tipping of the columns in the ground floor of the Olive View hospital building, rendering it quite unsafe and beyond repair (a tall chimney stack nearby was tipped in the same way); the wrecking of highway overpasses; the churning up of ground surface in places to give an appearance called "shattered earth;" and the sliding out of part of the dam already mentioned.

There is a saga associated with the last. At the Lower Van Norman dam there were two recording instruments, one on the crest and one on the east abutment. The one on the crest went out with the slide into the reservoir; but it was duly fished out and found to be still sealed and in good order. When its record was examined, it was found to parallel the one on the east abutment for most of the recorded motion; but with the arrival of the long slow wave it was interrupted, thus showing the time of the slide.

I hope that the new knowledge learned during the 1971 emergency may find effective application before the emergency comes again.

Contribution Number 2023, Division of the Geological and Planetary Sciences, California Institute of Technology, Pasadena.

Man Behind the Music



Philip Kahgan at Igor Stravinsky's elbow during a pause at a recording session in 1960

by **Richard Lipscomb**
Chief, Division
of Education

23
March
1941

Mr. Phil Kahgan
Paramount Pictures
Hollywood, California

Dear Phil

I have just arrived here and find your bill and am enclosing a check.

It was a wonderful orchestra you assembled and I look forward with pleasure to future things we shall do together because I always like so much working with you. Every now and then you do something which is really a miracle.

Always your friend

Leopold Stokowski

Philadelphia
Pennsylvania

The Phil Kahgan to whom Maestro Stokowski wrote in praise is the same Phil Kahgan who for more than twenty-five years has been performing "miracles" in his selection of groups for the Museum's Chamber Music Series — a series with undoubtedly the greatest longevity of any quality chamber music series in the world.

13
October
1941

The Sulgrave
Park Ave. & 67th St.
New York

Mr. Phil Kahgan
. . . . . .
Hollywood, California

Dear Phil

If you can spare the time, would you mind listening to the broadcast next Sunday afternoon (Philharmonic-Columbia) and later on, on Tuesday evenings, to the broadcast of the National Broadcasting Orchestra, and sending me a little note each time of your impressions? Especially I would like to know whether there are any pp's you could not hear, whether there are any ff's that did not sound well. Is the balance of the orchestra good?

Is the clarity of the separate instruments good? Of course, I would like to know any general impressions you have.

If you can do this you will help me very much in trying to make the transmission better.

Always with Friendship

Leopold Stokowski

The proof that Mr. Kahgan carried through is borne in the sequel letter dated —

20
October
1941

The Sulgrave
Park Avenue and 67th Street
New York

Mr. Phil Kahgan
. . . . . .
Hollywood, California

Dear Phil

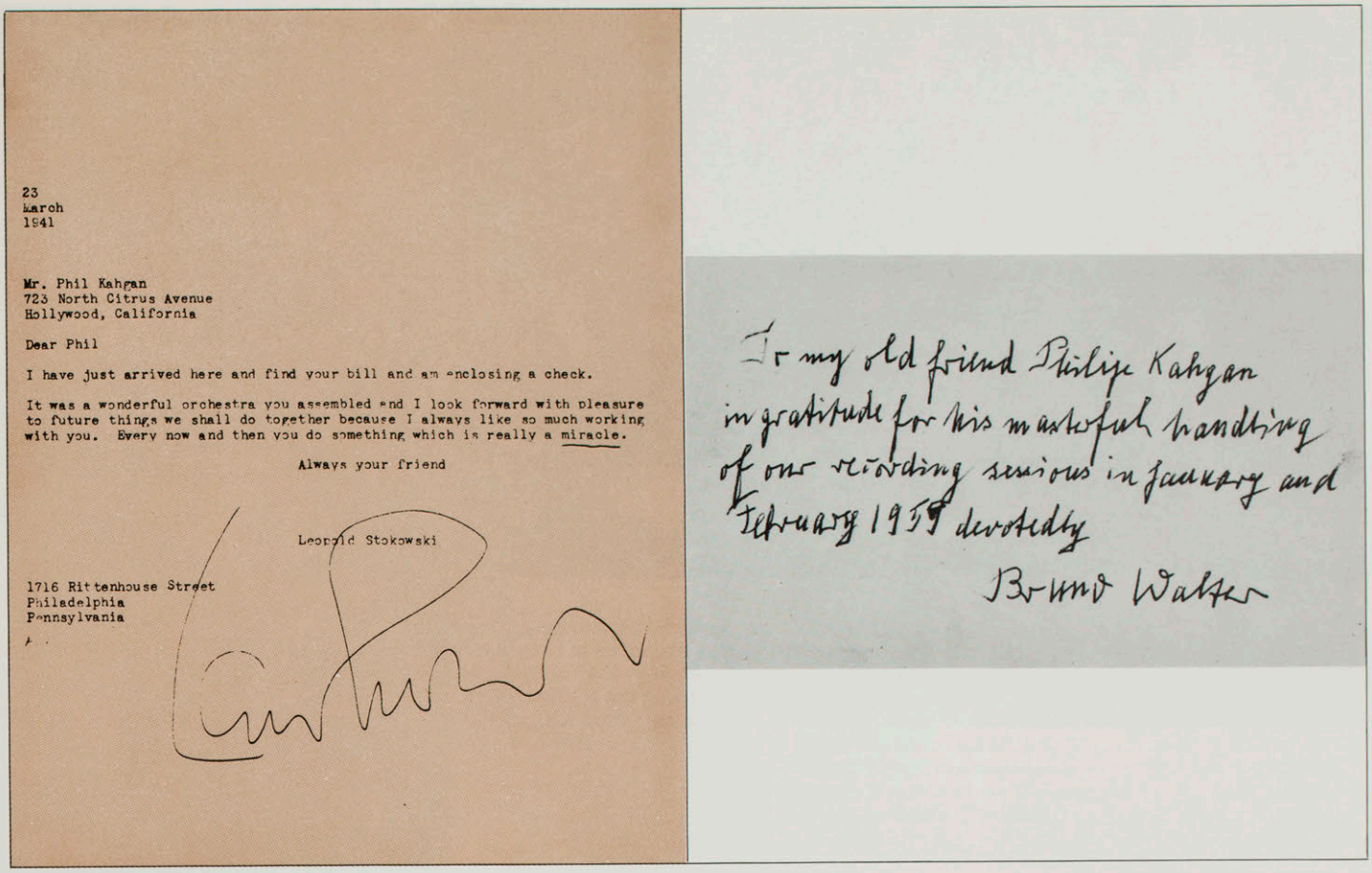
It was wonderful of you to call me yesterday on long-distance about the radio concert, and what you told me about the first violins, I am going to try to put right in future broadcasts.

It is of great value to me to have your opinion because you are so enormously experienced in all these matters and have real knowledge and understanding.

We are planning a tour of South America to begin in May or June, and I most intensely hope you will be with us. We will have wonderful times together down in those beautiful lands.

Always your Friend

Leopold Stokowski.



23
March
1941

Mr. Phil Kahgan
723 North Citrus Avenue
Hollywood, California

Dear Phil

I have just arrived here and find your bill and am enclosing a check.

It was a wonderful orchestra you assembled and I look forward with pleasure to future things we shall do together because I always like so much working with you. Every now and then you do something which is really a miracle.

Always your friend

Leopold Stokowski

1716 Rittenhouse Street
Philadelphia
Pennsylvania

For my old friend Philip Kahgan
in gratitude for his masterful handling
of our recording sessions in January and
February 1959 devotedly
Bruno Walter

Mr. Kahgan did not make that tour to South America to experience "wonderful times" in those "beautiful lands". His duties as orchestra manager at Paramount Studios kept him too busy. But he did organize other orchestras for Leopold Stokowski; and in 1945 he reorganized the Hollywood Bowl Orchestra under Maestro Stokowski.

Philip Kahgan was born in Russia and emigrated from there with his family at a very early age. His musical career in the City of Los Angeles began when he became a member of the Los Angeles Philharmonic Orchestra as violist and viola soloist under the leadership of Walter Henry Rothwell, Artur Rodzinski, Otto Klemperer and Albert Coates. Mr. Kahgan was a member of such chamber music groups as the Bartlett-Frankl Quartet and played many times with Alice Coleman Batchelder on the Coleman Series in Pasadena.

In 1941 during the time of the preceding series of letters from Stokowski Mr. Kahgan was also orchestra personnel manager for the newly organized Janssen Symphony of Los Angeles conducted by Werner Janssen. Mr. Kahgan also appeared as viola soloist on numerous occasions with the Janssen Symphony on the Standard Symphony Hour broadcasts over KFI.

These matters are mentioned so you may see that Mr. Kahgan has never had a single-barrelled approach to activity but at any particular time might have two, or more, concerts of the highest calibre in preparation or performance.

Additionally, during World War II Mr. Kahgan was busy (with Leopold Stokowski again) arranging symphony concerts for the armed forces which were played in Hollywood Bowl, the Hollywood Canteen, Camp Young and March Field. Kahgan also sent orchestras and soloists to entertain the wounded in the veterans' hospitals, for which he was commended by the Veterans Administration.

The recital of Mr. Kahgan's ancillary activities in creating orchestras in addition to his Paramount Studios tenure as musical contractor (a tenure that now extends to over forty years) would equal almost an exhaustive Old Testament list of "begats." We will mercifully, for the reader, skip an encyclopaedic listing; but we will state a partial list of his present commitments which can be taken as usual for most of his professional life: these include, orchestra personnel manager for the Los Angeles Master Chorale conducted by Roger Wagner, for the Glendale Symphony conducted by Carmen Dragon, for the San Francisco Opera Company, program director for Cal Tech Chamber Concerts, etc., etc.

An outstanding experience in Mr. Kahgan's career was the call to form the Columbia Symphony Orchestra for Dr. Bruno Walter. This same orchestra was also later utilized by Igor Stravinsky and Robert Craft for their recordings of Columbia Masterworks.

3 February, 1967

Mr. Philip Kahgan

. . . . . .

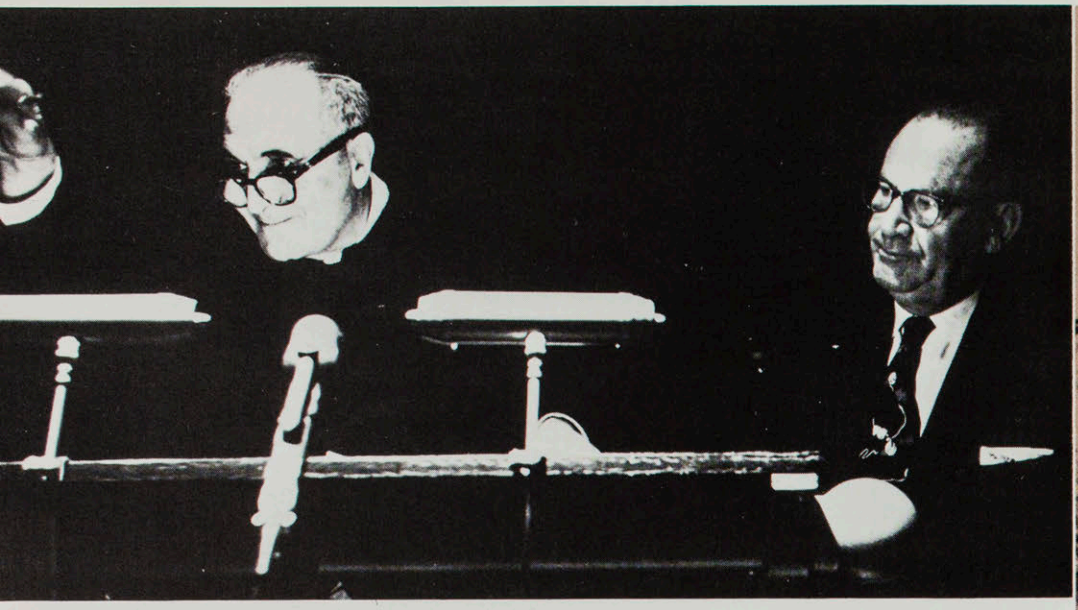
Los Angeles, California

Dear Phil,

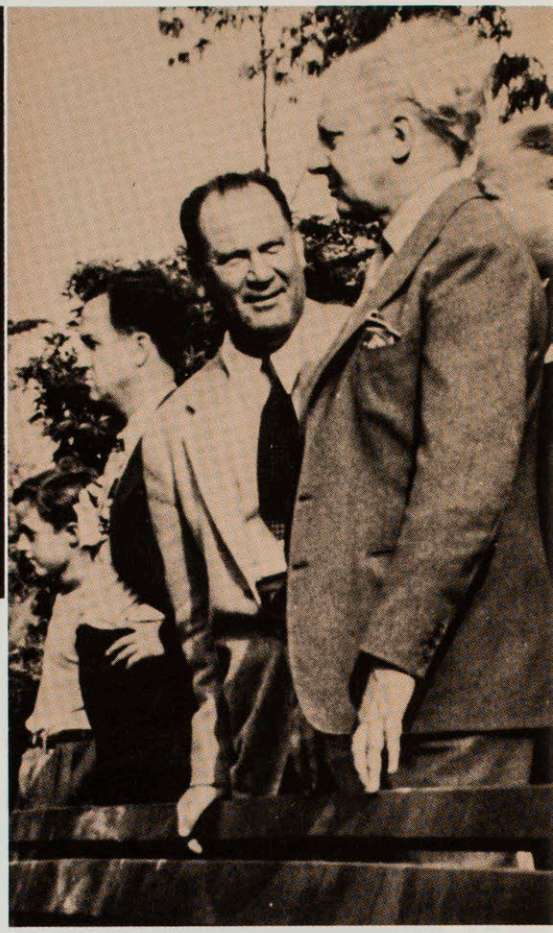
This is just a short note of thanks to you for your expert services to me during our recent recording sessions. But I would also like to express my sincerest appreciation for your invaluable work throughout the years, always securing the best musicians and always supervising concerts, rehearsals, recordings, in the smoothest and most efficient manner. Your presence is a guarantee of the best quality Los Angeles can offer.

Yours, etc.

Igor Stravinsky



Philip Kahgan with Dr. Bruno Walter at a recording session in 1959



Leopold Stokowski surveys the acoustics of Hollywood Bowl in 1941 to consider deploying the orchestra personnel Philip Kahgan has provided him.

John McClure, music director of the Masterworks Department of Columbia Records relates Phil Kahgan's hand in building the Columbia Orchestra.

"Then began the luxurious job of selecting an orchestra from the large pool of superb musicians who gravitate to the film studios in Hollywood. With the help of an old friend, Philip Kahgan, who had played first viola under Dr. Walter in Los Angeles many times and who knew every musician in the area, the orchestra was assembled; partly from the Los Angeles Philharmonic, partly from the studios. In the selection we were not attempting to imitate the New York Philharmonic or the Vienna Philharmonic or any existing orchestra, but only to let Bruno Walter create without hindrance the orchestral sound he felt would serve him best. The result was a group who could follow Dr. Walter nimbly through the stylistic quicksands of Mozart, Bruckner, Schubert and Mahler without impeding his footsteps.

During the four years that followed, an impressive range of repertoire was captured by our tape machine in almost one hundred recording sessions . . .

"The members of our orchestra who were freelance musicians gave up other more lucrative engagements week after week to be able to play with us for straight union scale (minimum salary) and despite the army of musicians waiting and hoping to replace these men, we made not more than four or five changes in the five years." (THE GRAMAPHONE, April 1962, page 490)

Mr. McClure restated this more emphatically in another article in HIGH FIDELITY, January, 1964, page 42: "Kahgan's work was so well done that we replaced only a few men in the next four years."

Bruno Walter expressed his appreciation in a letter dated January 18, 1962, his last year.

Dear Mr. Kahgan:

I just read in the magazine "Hi Fidelity" of December a very enthusiastic review of our Fourth Symphony of Bruckner (page 69) which ends in highest praise of our orchestra and I thought perhaps you might be interested to read it and perhaps tell our friends of the orchestra to read it . . ."

Dr. Walter has written in long hand the testimonial: *"To my old friend Philip Kahgan in gratitude for his masterful handling of our recording sessions in January and February 1959 devotedly* *Bruno Walter*

During all this time while Mr. Kahgan was assembling outstanding orchestras for monumental performances by many of the greatest conductors and composers of our day he was also continuing week by week to supply chamber music programs each Sunday for the Museum Concert Series. These groups also were picked meticulously and from the same pool of outstanding musical talent from which he selected his outstanding orchestras. In many cases the same musicians in the Bruno Walter, the Stokowski, the Franz Waxman, the Stravinsky orchestras were to be heard playing on the Museum Concerts.

Igor Stravinsky commented on a Museum Concert in a letter to Mr. Kahgan dated June 29, 1954:

Dear Mr. Kahgan:

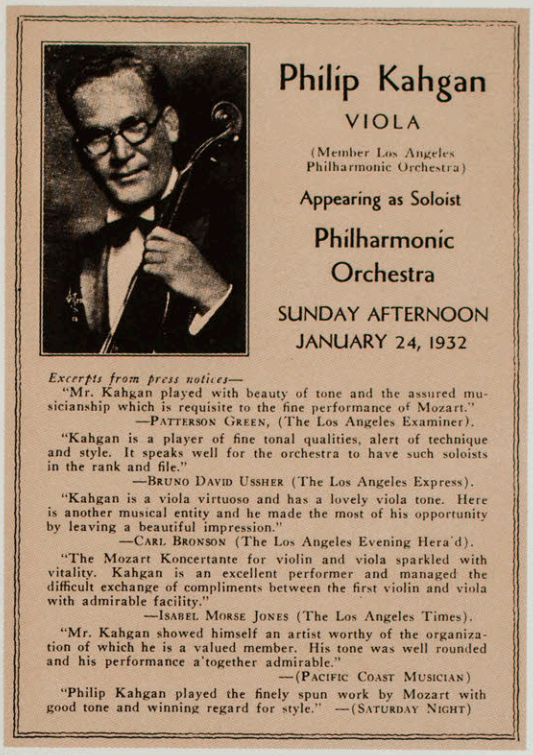
I want to thank you for putting on the splended concert of my music last Sunday.

I enjoyed the performances immensely and I am very happy in this demonstration of the high cultural value of your programs.

Please continue the good work.

Most sincerely

Igor Stravinsky



Philip Kahgan

VIOLA

(Member Los Angeles Philharmonic Orchestra)

Appearing as Soloist

Philharmonic Orchestra

SUNDAY AFTERNOON
JANUARY 24, 1932

Excerpts from press notices—

"Mr. Kahgan played with beauty of tone and the assured musicianship which is requisite to the fine performance of Mozart."
—Patterson Green, (The Los Angeles Examiner).

"Kahgan is a player of fine tonal qualities, alert of technique and style. It speaks well for the orchestra to have such soloists in the rank and file."
—Bruno David Ussher (The Los Angeles Express).

"Kahgan is a viola virtuoso and has a lovely viola tone. Here is another musical entity and he made the most of his opportunity by leaving a beautiful impression."
—Carl Bronson (The Los Angeles Evening Herald).

"The Mozart Koncertante for violin and viola sparkled with vitality. Kahgan is an excellent performer and managed the difficult exchange of compliments between the first violin and viola with admirable facility."
—Isabel Morse Jones (The Los Angeles Times).

"Mr. Kahgan showed himself an artist worthy of the organization of which he is a valued member. His tone was well rounded and his performance a'together admirable."
—(Pacific Coast Musician)

"Philip Kahgan played the finely spun work by Mozart with good tone and winning regard for style." —(Saturday Night)

Playbill for an appearance by Philip Kahgan with the Los Angeles Philharmonic Orchestra. Early Kahgan before he began to build a reputation as a creator of orchestras.



MAN BEHIND THE MUSIC
Philip Kahgan as he is today. Music Director of the Museum Chamber Music Concerts.

The number of fine musicians who have appeared on this Museum Series in the more than twenty-five years it has continued are too numerous to fully catalogue. Among those performers have been: Amparo Iturbi, Franz Waxman, The Roth Quartet, The Roger Wagner Chorale, Mischa Dichter, Jakob Gimpel, Yaltah Menuhin, Marilyn Horne, the Hollywood String Quartet, Leah Effenbach, Israel Baker, Darius Milhaud, Arnold Schoenberg, Toscha Seidel, Bernard Herrmann, Robert Craft, Andre Previn, and in more popular areas, Nelson Riddle, Bud Shank, Laurindo Almeida, Ray Brown . . .

In addition to the superlative quality of the performers and the music they produce the fact that the performers are paid only scale (union minimum) is a constant source of wonder. Not only is this Museum blest in being in the midst of one of the greatest concentrations of musical talent in the world, but the "miracle" that musicians will devote themselves to such a single-mindedly cultural activity freely open to the public is a tribute to them — and to Phil Kahgan for recruiting them.

An additional plus for the series and directly in line with the musicians' own generosity is that of radio station KFAC which devotes both its AM and FM bands to the complete broadcasting of each concert, whether that concert runs one hour or an hour and a half — (as was the case in December, of last year when on consecutive Sundays the Mitzelfelt Chorale with an orchestra selected by Mr. Kahgan presented the complete "Christmas Oratorio" of Johann Sebastian Bach.)

These concerts, unique among concert series in the world, are also set up in a unique manner. Under the Museum's aegis the concerts are sponsored and cooperatively paid for by the Music Performance Trust Fund of the Recording Industry with the cooperation of the American Federation of Musicians and its local chapter, 47, and the Supervisors of Los Angeles County. Under the Trust Fund, money is allocated to pay musicians to play admission-free concerts throughout the nation. Among the numerous concerts given with monies from this fund the Museum Chamber Music Concerts have been consistently singled out by the trustees as outstanding. Samuel Rosenbaum, trustee, in 1953 reported:

"The largest single project of this type (good music) is the series of Sunday afternoon chamber music recitals given in one of the galleries of the Los Angeles County Museum . . .

"All the personnel and programs are chosen and supervised by Philip Kahgan, the music director of one of the principal motion picture studios in Hollywood; the performers are mostly top musicians from the studios who do these programs for local union scale (as required by the Trust Agreement) although they earn many times that sum professionally. Kahgan himself is a recognized authority on chamber music; he was formerly a symphony violist. The consequence is that these recitals which have now continued for several years, have become established in public favor as one of the most distinguished and meritorious series of chamber music concerts in the history of American music. Typical of their comprehensive scope is a portion of the series, 13 in number, in which, as a cycle, all of the 24 chamber music works of Johannes Brahms are being presented complete. It is believed this is the first time such a complete cycle has been performed in America since 1932 when the only other given was organized in Philadelphia by Henry S. Drinker.



Choruses in the
Museum Chamber Series.



That part of the audience that
got into the auditorium at
the Laurindo Almeida — Bud
Shank concert at the Museum



Laurindo Almeida appearing
in concert on the Museum
Chamber Music Series.



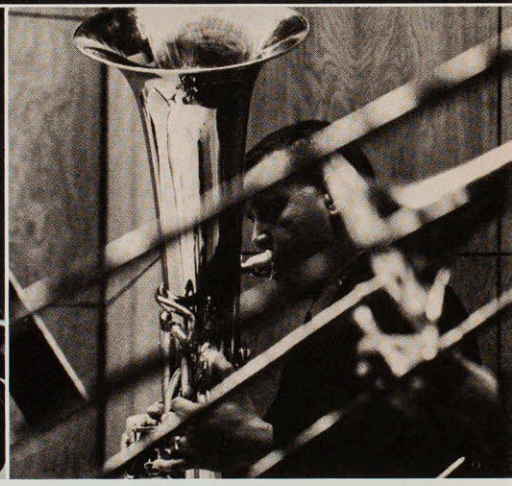
Trombones . . .



The eye was blurred but the
sound was clean in a fast
passage played by cellist
Frances Steiner during a
Museum Concert



Jazzman Bud Shank playing
sweet flute before a capacity
audience at the Museum
Concerts.



. . . and Tubas . . .



Phil Kahgan with his grandchildren Wendy, Andrew and Daniel Weiss and Supervisor Kenneth Hahn at the time the County Board of Supervisors bestowed a plaque on him in honor of his many contributions to the cultural life of Los Angeles County

"The Trustee does not hesitate to describe this series as one of the finest accomplishments to the credit of the Trust Fund . . ."

Ten years later in a letter dated January 3, 1963 Mr. Rosenbaum's enthusiasm was unabated:

Dear Phil:

Receiving the program for the Winter Series 1962-63 at the County Museum in the joint Chamber Music project Los Angeles County-Trust Fund, I cannot restrain my expression of renewed admiration for the good taste, wide knowledge, expert casting, and good public sense which this series continues, under your guidance, to manifest. The Los Angeles community, the Museum, the Trust Fund and the Local are all fortunate to enjoy the priceless contribution you make for such purely nominal compensation. You are a rare combination of musician, musicologist and promoter.

With warm personal greetings,

Most cordially

Samuel R. Rosenbaum
Trustee

A man can be described by his works. When most of his works are transitory as are those of music performance how can you flesh out the dimensions of that man? One device, of course, is to present the testimonials of those experts in the field who should be presumed to know; and thus let them describe the man. That, this article has attempted to do. It is hoped also that some aspect of the warm human regard that is felt for Phil Kahgan and his qualities may emerge.

Perhaps a final letter, a variation by now on a swelling theme, will help cap the description of the "man behind the music." This one is from the world-famous conductor William Steinberg writing from the Fairmont Hotel in San Francisco January 17, 1949.

Dear Phil:

I am still so strongly under the impression of the Saturday night concert that I cannot refrain from dropping these lines. This concert was one of the rare events in an artist's life and I fully realize that nobody would have been able to achieve this performance without you. This was your baby! The choice of those wonderful musicians, the arrangement of rehearsing time and what not else! Thousand thanks again — I will not forget this because it was the realization of a dream.

When you see the men please tell them again my thanks and my admiration for their playing and their spirit.

Cordial greetings from both of us to you and Mrs. Kahgan.

Most sincerely,

William Steinberg

P.S. When do you come to San Francisco? Aren't you a Mahler fan by now? (sic)

Mahler fan or not it's recognized at the Natural History Museum that this Chamber Music Series could not have existed or endured without Phil Kahgan.

And the excellence continues.

In the Summer Series of concerts, which at this writing have just been programmed there appear the names of guitarist Laurindo Almeida, Jacob Krachmalnik, formerly concertmaster of the Philadelphia and San Francisco Orchestras, violinist Louis Kaufman, to name only a few — and, projected a little farther ahead, another appearance of Roger Wagner and his Chorale.

As Dr. Stokowski stated it: Phil, "every now and then you do something which is really a "miracle."

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Exposition Park, Los Angeles, California 90007
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2. The monthly CALENDAR OF EVENTS
3. Family participation programs — NEW DIMENSIONS TO DELIGHT — tickets available only to members
4. 20% discount on most items at the Museum Bookshop
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6. An ever expanding program of benefits for children

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Active	$12.50
Contributing	$25.00
Sustaining	$100.00
Life	$500.00 (single payment)

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